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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,378	12/23/2003	Dong-Hyun Chang	45711	7944

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EXAMINER

CHOI, MICHAEL P

ART UNIT	PAPER NUMBER
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2621

MAIL DATE	DELIVERY MODE
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07/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/743,378	Applicant(s) CHANG, DONG-HYUN	
	Examiner Michael P. Choi	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-9 and 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitations "the decompressed video signal", "the audio signal" and "the data conversion unit". There is insufficient antecedent basis for this limitation in the claim.

Claims 5-8 depend upon claim 4 directly or indirectly and therefore inherent the deficiencies.

Claim 9 recites the limitations "the video signal and the audio signal", "the decoder", "the storage unit", "the demultiplexer", "the frame setting unit", "the format conversion unit" and "the scaler". There is insufficient antecedent basis for this limitation in the claim. For the purposes of expedient examination, the Examiner takes claim 9 to therefore be dependent upon claim 8.

Claim 14 recites the limitations "the format", "the decompressed video signal" and "the audio signal". There is insufficient antecedent basis for this limitation in the claim. For the purposes of expedient examination, the Examiner takes claim 14 to therefore be dependent upon claim 13.

Claim 15 recites the limitations "the decompressed video signal", "the audio signal", "the video data and the audio data", "the portion" and "the data conversion unit". There is insufficient antecedent basis for this limitation in the claim.

Claims 16-19 depend upon claim 15 directly or indirectly and therefore inherent the deficiencies.

Claim 20 recites the limitations "the video signal and the audio signal" and "the resolution". There is insufficient antecedent basis for this limitation in the claim. For the purposes of expedient examination, the Examiner takes claim 20 to therefore be dependent upon claim 19.

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Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 10-12, 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez (US 2004/0008790 A1).

Regarding Claims 1 and 12, Rodriguez teaches an apparatus for recording multimedia data comprising:

- a receiving unit for receiving a compressed multimedia signal (Fig. 2, 242 – communication interface; Paragraph [0039]);
- a decoder unit for decoding the multimedia signal into a data stream having a predetermined format (Fig. 2, 216 – analog video decoder);
- a data compression unit for reducing a data amount of the data stream by a certain amount and encoding the reduced data stream (Fig. 2, 212 – down-converter);
- a compression select unit for setting a compressibility of the data compression unit; and a storage unit for storing the encoded data (Fig. 2, 217 – compression engine).

Regarding Claims 10 and 21, Rodriguez teaches the apparatus of claim 1 and 12 respectively, wherein the predetermined format is selected from the group consisting of MPEG-1, MPEG-2, MPEG-3, and MPEG-4 (Paragraph [0037]).

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Regarding Claims 11 and 22, Rodriguez teaches the apparatus of claim 1 and 12 respectively, wherein the receiving unit receives a multimedia signal compressed with any one of the compression formats selected from the group consisting of MPEG-1, MPEG-2, MPEG-3, and MPEG-4 (Paragraph [0037]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-5, 7-9 and 13-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (US 2004/0008790 A1).

Regarding Claims 2 and 13, Rodriguez teaches the apparatus of claim 1 and 12 respectively, wherein the decoder unit comprises: a demodulator for removing a carrier wave from the multimedia signal (Fig. 2, 215; Paragraph [0049] – precluding irrelevant or undesired packets); a demultiplexer for decoding the multimedia signal into a video signal and an audio signal after the carrier wave is removed from the multimedia signal (Fig. 2, 215; Paragraph [0042]); and a decoder for decompressing the video signal and the audio signal (Fig. 2, 216; Paragraph [0042]).

Rodriguez discloses the claimed invention as a demodulating system and a transport demultiplexing and parsing system (referred to as demultiplexing system) as a separate component other than a decoder unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the decoder along with the signal processing system encompassing the demultiplexer and demodulator systems, since it has been held that making previously separate

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components integral into one unit without producing any new and unexpected result involves only routine skill in the art. See *In re Larson*, 340 F.2d 965, 968; 144 USPQ 347, 349 (CCPA 1965).

Regarding Claims 3 and 14, Rodriguez teaches the apparatus of claim 2 and 13 respectively, further comprising a format setting unit for setting the format of the video signal and the audio signal from the demultiplexer to one of PES in a packet unit (Paragraph [0056] – output packetized elementary stream inside a transport stream) and TS in a pack unit (Paragraph [0047] – output as a transport stream).

Regarding Claims 4 and 15, Rodriguez teaches the apparatus of claim 1 and 12 respectively, wherein the data compression unit comprises: a data conversion unit for reducing a portion of the data of the decompressed video signal and the audio signal according to the compressibility set by the compression select unit (Fig. 2, 212 – down-converter; Paragraphs [0043-0045]); and an encoder unit for recompressing the video data and the audio data after the portion of the data is reduced by the data conversion unit (Fig. 2, 226 – digital encoder; Paragraph [0048]).

Rodriguez discloses the claimed invention as a compression and decompression engine, which are connected by a bus in order to have an encoder unit for decompression after being reduced. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the compression and decompression engines, since it has been held that making previously separate components integral into one unit without producing any new and unexpected result involves only routine skill in the art. See *In re Larson*, 340 F.2d 965, 968; 144 USPQ 347, 349 (CCPA 1965).

Regarding Claims 5 and 16, Rodriguez teaches the apparatus of claim 4 and 15 respectively, wherein the data conversion unit comprises:

- a memory for storing the decompressed data from the decoder in a frame unit (Fig. 2, 273 – storage device);

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- a frame setting unit, enabled by the compression select unit, for removing frames of the data stored on the memory and re-storing (Paragraph [0061] – multiple simultaneous data transfer operations) the data in the memory (Paragraph [0063] – eliminating frames); and
- an encoder for compressing the data stream re-stored (Paragraph [0061] – multiple simultaneous data transfer operations) in the memory (Fig. 2, 226 – digital encoder).

Regarding Claims 7 and 18, Rodriguez teaches the apparatus of claim 5 and 16 respectively, further comprising a format conversion unit, enabled by the compression select unit, for converting the signal format of the video signal held in the memory to 4:2:0 format and re-storing the data in the memory (Paragraphs [0043-0045]).

Regarding Claims 8 and 19, Rodriguez teaches the apparatus of claim 7 and 18 respectively, further comprising a scaler, enabled by the compression select unit, for reducing the resolution of the video signal stored in a frame unit on the memory to a certain resolution and re-storing the data in the memory (Paragraphs [0043-0045] – scaling functionality maintained in memory; Paragraphs [0067,0097,0123]).

Regarding Claims 9 and 20, Rodriguez teaches the apparatus of claim 1 and 12 respectively, wherein the compression select unit generates a first control signal that causes the video signal and the audio signal to be outputted (Fig. 2, 212 – down-converter signals along bus, 205; Paragraph [0042]) to any one of the decoder (Fig. 2, 226) and the storage unit (Fig. 2, 273) by controlling the demultiplexer (Fig. 2, 215; Paragraph [0047]), and a second control signal that causes at least one of the frame setting unit, the format conversion unit and the scaler to be enabled by controlling the data conversion unit (Paragraphs [0043,0067,0097,0123] – compression engine and down-converter employing filters controlling scaling).

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7. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (US 2004/0008790 A1) in view of Matsunaga et al. (US 20020176503 A1).

Regarding Claims 6 and 17, Rodriguez teaches the apparatus of claim 5 and 16 respectively, wherein the frame setting unit removes frames but fails to explicitly teach even-numbered frames. Matsunaga teaches the frame setting unit removes even-numbered frames (Paragraph [0062]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine a frame eliminating element to removed even numbered frames for frame removal processing in order to convert to a lower frame rate (Paragraph [0062]).

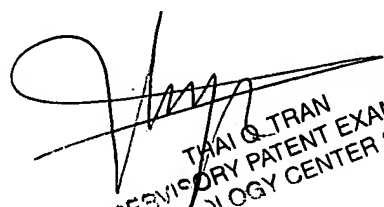
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Choi whose telephone number is (571) 272-9594. The examiner can normally be reached on Monday - Friday 8:00AM - 5:30PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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